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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/235,686	01/22/1999	ANN XIAOAN LIU	AC06105	4330

7590

10/27/2003

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EXAMINER

JACKSON, MONIQUE R

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 10/27/2003

28

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/235,686

Applicant(s)

LIU ET AL.

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11, 12, 16, 26-29, 33-35, 39, 45, 46 and 48-61 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 12, 16, 26-29, 33-35, 39, 45, 46 and 48-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

1. The amendment filed 8/11/03 has been entered. Claims 1-9, 11, 12, 16, 26-29, 33-35, 39, 45, 46 and 48-61 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

3. Claims 48-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 48 recites the limitation "comprising about 0.5 to about 4.75% of the thermosetting resin" however the claim fails to provide a basis for this percentage, i.e. weight, volume, etc., in terms of the resin and particles or total weight of the composition, etc.

#### ***Claim Rejections - 35 USC § 103***

4. Claims 1-9, 11, 12, 16, 26-29, 33-35, 39, 45, 46 and 48-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magnin et al (USPN 6,290,815) in view of *Microspheres: Microspheres Engineered for a Wide Choice of Unique Enhancements* by 3M and Zeelan Industries, Inc. (3M and Zeelan). Magnin et al teach a paper-based sheet and abrasion-resistant laminates produced from the paper sheet(s) including high pressure laminates of multiple resin-impregnated sheets and low pressure laminates including a particleboard base, wherein the paper sheet contains grit particles coated in a non-abrasive material such as polyolefins giving the paper a high abrasion resistance, wherein the particles may be chosen from alumina, silica, glass and ceramic particles or mixtures thereof and may be spherical or approximately spherical with a particle size of 10-200 microns (Abstract; Col. 5.) The paper sheets may be coated or

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impregnated with a composition, particularly a thermosetting resin such as melamine, benzoguanamine and unsaturated polyester, wherein the thermosetting resin may also include the coated grit particles, and then cured under heat and pressure utilizing typical low pressure or high pressure lamination methods with an example produced at 160C and 6.9 MPa (Claims; Col. 5.)

Though Magnin et al do not specifically teach impregnating the paper sheet utilize multiple impregnation and drying steps, it is well established that selection of any order of performing process steps or repeating process steps is *prima facie* obvious in the absence of new or unexpected results. Further, though Magnin et al teach that the particles may be alumina, silica, glass or ceramic and preferably alumina, Magnin et al do not teach that the particles are alkali alumino silicate ceramic microspheres as instantly claimed, however, it would have been obvious to one having ordinary skill in the art to utilize any conventional alumina or ceramic particles commonly utilized in the art wherein 3M and Zeelan teach an alkali alumino silicate ceramic microsphere which is commercially available as ZEEOSHERES W-610 and is a semi-transparent, white colored, fine particle size, high strength, high hardness ceramic microsphere and is useful in coatings and adhesives and provides excellent abrasion resistance (Table.) Therefore, one having ordinary skill in the art at the time of the invention would have been motivated to utilize the commercially available alkali alumino silicate ceramic microspheres taught by 3M and Zeelan, an obvious species of ceramic or alumina particles, or any other commercially available ceramic or alumina particle known in the art for the invention taught by Magnin et al, wherein one having ordinary skill in the art would have been motivated to utilize routine experimentation to determine the optimum amount of grit particle with respect to thermosetting resin to provide the desired mechanical properties for a particular end use.

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***Response to Arguments***

5. Applicant's arguments filed 8/11/03 have been considered but are not persuasive and/or moot in view of the new ground(s) of rejection wherein the Examiner notes that the data/information provided is not a showing of unexpected results with respect to the closest prior art and hence are not sufficient to overcome the obviousness rejection recited above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Monique R. Jackson  
Primary Examiner  
Technology Center 1700  
October 20, 2003